

sequences by residues known to be equivalent with those residues can be effected to produce equivalent peptides having similar biological activities. Moreover, it is known that additional substitutions in the amino acid sequence generally throughout the C-terminal portion of the peptide, i.e. within about  $\frac{1}{3}$  of the length of the conotoxin nearest its C-terminus, can be effected in order to produce conotoxins having phylogenetic specificity; thus, such substitutions in

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SEQUENCE LISTING

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## ( 1 ) GENERAL INFORMATION:

( i i i ) NUMBER OF SEQUENCES: 13

## ( 2 ) INFORMATION FOR SEQ ID NO:1:

## ( i ) SEQUENCE CHARACTERISTICS:

( A ) LENGTH: 25 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( i i i ) HYPOTHETICAL: NO

( i v ) ANTI-SENSE: NO

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Gly	Cys	Cys	Gly	Ser	Tyr	Pro	Asn	Ala	Ala	Cys	His	Pro	Cys	Ser	Cys									
1				5					10					15										
Lys	Asp	Arg	Xaa	Ser	Tyr	Cys	Gly	Gln																
			20					25																

## ( 2 ) INFORMATION FOR SEQ ID NO:2:

## ( i ) SEQUENCE CHARACTERISTICS:

( A ) LENGTH: 30 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Glu	Lys	Ser	Leu	Val	Pro	Ser	Val	Ile	Thr	Thr	Cys	Cys	Gly	Tyr	Asp												
1				5					10					15													
Xaa	Gly	Thr	Met	Cys	Xaa	Xaa	Cys	Arg	Cys	Thr	Asn	Ser	Cys														
			20					25					30														

## ( 2 ) INFORMATION FOR SEQ ID NO:3:

## ( i ) SEQUENCE CHARACTERISTICS:

( A ) LENGTH: 19 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Cys	Cys	Gly	Val	Xaa	Asn	Ala	Ala	Cys	Pro	Xaa	Cys	Val	Cys	Asn	Lys												
1				5					10					15													
Thr	Cys	Gly																									

## ( 2 ) INFORMATION FOR SEQ ID NO:4:

## ( i ) SEQUENCE CHARACTERISTICS:

this region can be carried out to produce valuable equivalent structures. The C-terminus of many of the illustrated peptides is amidated, and the inclusion of a substituted amide at the C-terminus of such peptides, as described hereinbefore, is considered to create an equivalent conotoxin.

Particular features of the invention are emphasized in the claims which follow.

09469496 122296  
09469496 122296

( A ) LENGTH: 23 amino acids  
( B ) TYPE: amino acid  
( D ) TOPOLOGY: unknown

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:4:

( 2 ) INFORMATION FOR SBQ ID NO-5:

( i i ) MOLECULE TYPE: peptide

( 8 i ) SEQUENCE DESCRIPTION: SBQ ID NO:5:

( 2 ) INFORMATION FOR SEQ ID NO:6:

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SBQ ID NO:6:

( 2 ) INFORMATION FOR SEQ ID NO:7:

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SBQ ID NO:7:

( 2 ) INFORMATION FOR SBQ ID NO:8:

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:8:

**A T B X a a S o r**

( 2 ) INFORMATION FOR SBQ ID NO-9:

( i ) **SEQUENCE CHARACTERISTICS:**

( A ) LENGTH: 23 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SBQ ID NO:9:

Ser Ser Ala Ser Cys Cys Gln  
20

( 2 ) INFORMATION FOR SEQ ID NO:10:

( i ) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Xaa Gln Cys Val Arg Ser Tyr Cys Thr Leu Phe  
20 25

( 2 ) INFORMATION FOR SEQ ID NO:11:

( i ) SEQUENCE CHARACTERISTICS:

( A ) LENGTH: 35 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( \* i ) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Ile Cys Cys Gly Tyr Cys Ala Tyr Phe Gly Lys Lys Cys Ile Asp Tyr  
20 25 30

Pro Ser Ann  
35

( 2 ) INFORMATION FOR SEQ ID NO:12:

( i ) SEQUENCE CHARACTERISTICS:

( A ) LENGTH: 27 amino acids

( B ) TYPE: amino acid

( D ) TOPOLOGY: unknown

( i i ) MOLECULE TYPE: peptide

( x i ) SEQUENCE DESCRIPTION: SEQ ID NO:12:

110 Ala Lys Gly Cys Lys Val Asn Cys Tyr Pro